



BORDER 2012: U.S.- MEXICO ENVIRONMENTAL PROGRAM

REGIONAL WORKGROUP NEWSLETTER

ARIZONA - SONORA

Fall 2005

Arizona/Sonora Regional Workgroup

By Editing Committee

The Arizona/Sonora Regional Workgroup is committed to informing the public about Border 2012 activities in our section of the U.S.-Mexico border. This newsletter provides readers with information regarding environmental work being done for or near their communities. It also contains specific contacts on the five task forces that were created under the workgroup. We encourage you to become an active participant in any that interest you. We hope to continue to serve our communities on both sides of the border with information that is important to them, through this publication and the Border 2012 Program website, www.epa.gov/usmexicoborder. If you have additional questions or suggestions for future editions of this newsletter, please feel free to contact us at 1-800-334-0741 (EPA San Diego Border Office) or 1-888-271-9302 (ADEQ Tucson Office). ■



Tucson, Arizona

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
SAN DIEGO BORDER LIAISON OFFICE
610 WEST ASH STREET, SUITE 905
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Border People: Co-Chairs of the Arizona/Sonora Regional Workgroup

In the previous Arizona/Sonora Regional Workgroup Newsletter (Summer 2004) we highlighted the work and perspectives of two Co-Chairs that administer the workgroup within Border 2012. In this edition, we are highlighting two more. This will give readers a personal look at two individuals that are working to solve environmental challenges that border communities face in the Arizona/Sonora region. We plan to continue these type of profiles with stories of other Regional Workgroup representatives as the members and leaders of the workgroup task forces. ■



Steve Owens

Director of the Arizona Department of Environmental Quality

 Owens, director of the Arizona Department of Environmental Quality, was appointed to the department by Governor Janet Napolitano in January 2003 and provides executive leadership, setting overall policy and priorities. Before joining ADEQ, Steve was a practicing environmental attorney in Phoenix for 14

years. Steve has served on numerous environmental panels, including the EPA's Clean Air Act Advisory Committee, the Phoenix Environmental Quality Commission, the Environmental Council of the State (ECOS), and the Joint Public Advisory Committee of the North American Commission on Environmental Cooperation, which reviews environmental matters arising under the North American Free Trade Agreement (NAFTA).

Among other priorities, Steve has advocated for increasing efforts that address children's environmental health issues through his role as co-chair of the Arizona/Sonora Regional Workgroup. The creation of the Arizona/Sonora Children's Environmental Health Task Force is a direct response to focus initiatives in this area. As the first such task force throughout the U.S.-Mexico border region, several ongoing projects highlight the begin-

ning of long-term processes to improve environmental health conditions of children living in the Arizona/Sonora border. These projects include:

- Integrated pest management training for implementation at schools on both sides of the border.
- Promoting the school bus idling policy developed by ADEQ in border region school districts, which decreases exposure of children to harmful diesel emissions from idling school buses.
- Diesel engine retrofits of buses used by the Santa Cruz County Unified School District to further minimize diesel emissions.


Collaboration among the task forces is key not only to strengthen these efforts, but also to maximize resources by eliminating duplicative activities. This serves as a vehicle to improve the quality of environmental efforts in the Arizona/Sonora border region.

If you have not been active in any of the task forces, please consider partnering with us by contacting any of the task force leaders. ■



Ing. Florencio Díaz Armenta

Delegate, Sonora Secretariat for Environment and Natural Resources

 beginning as the Federal Delegate in Sonora for the Secretariat for the Environment and Natural Resources (SEMARNAT), Florencio Díaz Armenta has demonstrated his interest regarding the environmental concerns of communities adjacent to the U.S. border by fostering SEMARNAT's participation in Border 2012 task forces.

As Mayor of San Luis Río Colorado (1997-2000), he learned first-hand about the issues that concern the residents on both sides of the border. During his administration, he was an active participant of the Border XXI Program, the precursor to Border 2012. This included proposing and initiating the development of a wastewater treatment plant to the BECC and NADBank, which is now a reality in the municipality.

In his role as co-chair of the Arizona-Sonora Border 2012 Regional Workgroup, he has proposed the development of a priority action plan in

coordination with the Secretariat of Urban Infrastructure and Ecology of Sonora (SIUE). Humberto Valdéz Ruy Sánchez, Secretary of SIUE, is also co-chair of the Regional Workgroup. Presented at the National Coordinators' Meeting held in Tucson, Arizona this past March, the priority action plan emphasized addressing issues related to Air and Water Quality, Waste and Enforcement, Children's Environmental Health, and Chemical Emergency Preparedness and Response, to coincide with the efforts of the local task forces.

An issue of great interest to Mr. Díaz Armenta is the possibility of supporting the "Project to reactivate air quality monitoring of particulate matter in border communities," as well as the clean-up of waste tire dump sites in Nogales, Sonora.

A goal of Mr. Díaz Armenta is to provide capacity building opportunities for municipal authorities on municipal solid waste prevention and integrated management, in order to improve waste management practices in border communities. ■

TASK FORCE / MEDIA UPDATES

Arizona / Sonora Water Task Force

By Doug Liden, EPA Region 9

The Arizona/Sonora Border 2012 Water Task Force was formed in 2003 by state and local agencies from Mexico and the United States, including the Comisión Nacional de Agua (CNA, México's National Water Commission), Arizona Department of Water Resources (ADWR), Arizona Department of Environmental Quality (ADEQ), U.S. Environmental Protection Agency (EPA), and the Comisión de Agua Potable y Alcantarillado del Estado de Sonora (COAPAES, the State of Sonora Water Commission). The goals of the Task Force are to:

- 1) Improve understanding of hydrologic resources in the region, share water resources data and improve water monitoring.
- 2) Develop relationships with other organizations working on similar issues.
- 3) Provide technical expertise to

review binational water resources concerns.

- 4) Help identify and secure funding for water resource projects.

- 5) Review, comment, and recommend water quality funding requests submitted to EPA.

One of the Task Force's projects has been to further develop a shared Water Information Center (Centro de Consulta de Agua en Sonora). The Center is a Web-based service maintained by el Instituto Tecnológico de Sonora in Hermosillo (ITSON). Development of this site was originally financed by the World Bank, with the aim of 1) helping engineers at CNA access data necessary for decision-making and 2) making information readily available to the public, to increase awareness of water issues. To help share data between Mexico and the United States for studies in binational watersheds, ADEQ has

provided the Center links to over 300,000 records from its own internal water quality database. These records can be identified by running a simple query on the CNA Water Information Center for "Arizona" (www.aguanoroeste.org.mx).

The most recent Arizona/Sonora Water Task Force meeting was held in Hermosillo, Sonora, on April 15, 2005. During this meeting, CNA agreed to develop a workplan for monitoring drinking water wells in Nogales, Sonora for tetrachloroethylene (TCE). In 1996, a binational group consisting of ADEQ, COAPAES, and International Boundary and Water Commission (IBWC)-U.S. & Mexican Sections conducted a study of thirteen wells along the Nogales Wash. The study found PCE and fecal coliform in some of the wells. ADEQ continued to monitor two of the wells in Arizona, but no further monitoring was conducted in Mexico due to resource constraints. Once the work plan is developed, the Task Force intends to develop a Memorandum of Understanding so that ADEQ can assist Mexico with additional testing of the contaminated wells.



Recently completed wastewater treatment plant at Patagonia



On the banks of the Naco East Wastewater Treatment Lagoons

For more information, contact Doug Liden at EPA, (415) 972-3406 or by email at liden.douglas@epa.gov. ■

Providing Safe Drinking Water to Tribes and Indigenous Communities

By Linda Reeves, EPA Region 9

Ate Thoo O'odham Nation, approximately 15% of the population lacks access to safe drinking water and basic sanitation. Safe drinking water is also not available at most O'odham indigenous communities in Mexico. A fundamental goal of the Border 2012 Framework is to increase by 25% the number of homes with access to safe drinking water and basic sanitation. Below are highlights of two projects which increase access for these tribal and indigenous communities.

Continuous Chlorination Units for the Tohono O'odham Nation

The Tohono O'odham Utility Authority installed continuous chlorination units for 71 water sources on the Tohono O'odham Nation, ensuring that approximately 20,000 people receive safe drinking water disinfected against harmful bacteria such as E. coli and fecal coliform.

At a cost of \$30 per home, EPA's tribal border infrastructure program provided funds to the Nation to purchase the chlorination units. The Tohono O'odham Utility Authority donated the cost of its labor to install the units. The project was completed over a two year period ending in October 2004.

Prior to completion of this proj-

ect, the Nation's water sources were chlorinated by hand once per month, except sources with elevated storage tanks which were chlorinated once every 3 months due to the risk of climbing the tanks and limited staff resources. At the Tohono O'odham Nation, the rate of communicable diseases related to poor sanitation exceeds the U.S. national average by 1.3 times for Hepatitis B, 2.7 times for Salmonellosis, 13.7 times for Shigellosis, 17 times for Tuberculosis, and 108 times for coli (according to the Centers for Disease Control, based on outpatient clinic data from 1999).

The Tohono O'odham Nation has the largest land mass of



Tohono O'odham Chlorination System Unit

the tribal and indigenous communities in the border region. Located west of Tucson, it has a population of 22,000. Seventy miles (124km) of the reserva-

tion are on the international boundary between the U.S. and Mexico. There are close ties between the Nation and the O'odham indigenous communities in Mexico.

Quitovac, Sonora

The O'odham indigenous community of Quitovac in Sonora will have safe drinking water by the end of this year. With funds from EPA's Border 2012 program, the Tohono O'odham Utility Authority will install a new well, water storage tank and distribution system for the community. The project will serve 17 homes and a boarding school for 100 children.

The new water system will replace many individual hand-dug wells which are contaminated with total coliform and fecal coliform, and have high levels of lead, arsenic, uranium and chromium.

Mexico will provide electricity to Quitovac, and will construct a health clinic after the new drink-



100 children at the O'odham indigenous boarding school in Quitovac will receive safe drinking water.

ing water system is completed. Also, EPA has allocated funds to construct a wastewater treatment system for the boarding school to prevent contamination of the ground water supply.

Quitovac is located in northwestern Sonora, Mexico, approxi-

mately 20 miles south of the Lukeville international port of entry. The drinking water needs at Quitovac are typical of the needs at other O'odham indigenous communities in Sonora, Mexico.

For more information about the

tribes and indigenous communities in the Arizona/Sonora Border Region, please contact Ty Cañez, Tribal Border Liaison, at (480) 820-1426; or, Linda Reeves, EPA Tribal Border Infrastructure Coordinator, at (415) 927-3445. ■

Heavy-Duty Remote Sensing Demonstration Project at the Nogales Border Crossing in Arizona

By Christine Vineyard, EPA Region 9



A remote sensing device (or RSD) casts a narrow beam of ultraviolet and infrared light across a roadway to instantaneously measure tailpipe emissions as a vehicle crosses its path. The technology has been widely demonstrated in light-duty applications. This project demonstrated the use of the technology in measuring heavy-duty (truck) emissions at the Nogales border crossing in Arizona. The RSD estimate was corroborated with existing EPA-approved measurement methods. Average emissions profiles for US and Mexican trucks will be generated and suggested cut points for 'gross emitter' thresholds will be identified.

Project Description. Two sets of RSD equipment were set up at the US-Mexico border crossing in Nogales, Arizona to estimate emissions of Volatile Organic Compounds (VOCs), Carbon Monoxide (CO), Nitrous Oxides (NOx) and Particulate Matter (PM) from all trucks passing the equipment. RSD estimates were corroborated with a portable emissions monitor (PEM) for a subset of trucks that volunteered to participate. A PEM device was temporarily installed on a truck to obtain emissions estimates for VOC, CO and NOx. Opacimeter readings of PM were taken, though they reflect coarse PM and RSD reflects fine PM. Officials from the

four border states and interested stakeholders, including Mexican air quality officials, were invited to a demonstration event at Nogales to see the technology first hand. The demonstration ran for three weeks, with testing scheduled to begin the second week in March. A report was generated describing the data, analyses, and results. An advisory board of technical experts has been formed to assist in reviewing the report. The report was available by July, 2005 and was shared with all interested parties.

Project Partners. The participants in the project include the Arizona Department of Environmental Quality, U.S. Environmental Protection Agency, ESP, and M.J. Bradley & Associates.

Next Steps. After successful completion of the three week pilot project, the project partners will consider establishing two to

three quasi-permanent RSD sites at high traffic border crossings. These sites operate from three to 12 months to gather a more comprehensive set of data on cross border truck emissions and refine the levels at which trucks should be considered "gross emitters". The analysis will also offer estimates on emission reductions from a gross emitter program. ■



Ambos Nogales Air Quality Plan of Action Signed

by Michéle Kimpel Guzmán, ADEQ

Arizona Department of Environmental Quality (ADEQ) Director Steve Owens, and Secretariat of Urban Infrastructure and Ecology Director Humberto Daniel Valdéz Ruy Sánchez, recently signed the Plan of Action for Improving Air Quality in Ambos Nogales in their capacity as public sector co-chairs of the Arizona-Mexico Commission Environment Committee. The signing ceremony took place on June 17, 2005, as part of the Arizona-Mexico Commission's Summer Plenary Session in Tucson, Arizona.

The Plan of Action describes 12 recommended actions to improve air quality in Ambos Nogales, which is impaired by unhealthy levels of particulate matter. The plan serves as a guide to future action to improve public health. It will be posted soon in PDF format on ADEQ's Web site.

Elevated levels of particulate matter (PM) can increase the frequency and severity of asthma attacks, upper respiratory tract infections, and ultimately cause emphysema, lung cancer, and premature death. Air quality in Ambos Nogales regularly violates the 24-hour health standard for PM10. A 1999 binational air quality study

in the area estimated that particulate pollution causes five to eight premature deaths annually in Nogales, Ariz., and 42 to 72 premature deaths annually in Nogales, Sonora (which has higher numbers because the overall population is so much larger). Thus, the need for air quality improvement is clear.

The Plan of Action is the culmination of a great deal of work by many local, state and federal agencies and organizations in the U.S. and Mexico, working under the auspices of the Border Liaison Mechanism Economic and Social Development Subgroup and the Border 2012 Ambos Nogales Air Quality Task Force. The recommendations represent the consensus of the participants, and include actions to reduce particulate emissions from unpaved roads and parking lots, passenger and commercial vehicles, traffic congestion, soil erosion, and the burning of wood and garbage in homes and yards. Specifically, the recommended actions are:

- Stabilize unpaved roads and parking lots
- Speed up individual and commercial border crossings
- Reduce vehicle emissions
- Construct major transportation corridors
- Reduce the air quality impacts of the train route
- Eliminate garbage burning



- Promote more effective revegetation efforts
- Reduce wood burning
- Carry out engineering solutions to soil erosion
- Establish recycling programs
- Create or improve public transit services
- Improve traffic flow on local streets

Now that the document has been signed, the Border Liaison Mechanism Subgroup and the Border 2012 Ambos Nogales Air Quality Task Force will be working to carry out the recommendations. These efforts will include identifying measures of progress, conducting public education and outreach, and collaborating with the Border 2012 Children's Environmental Health Task Force. For further information, please contact Plácido dos Santos at (520) 628-6744 or pds@azdeq.gov. ■



Local Border 2012 Environmental Stewardship Project Offers Free Training, Support

By Barbara Maco, EPA Region 9

Abnord public/private partnership is working with businesses and municipalities to improve the environment and public health in Arizona and Sonora, Mexico border communities.

The partnership is offering free training and technical support to enable local governments and businesses to develop environmental management systems (EMS) based on international standards that use eco-efficiency and pollution prevention techniques. An EMS allows an organization to analyze, control and reduce the environmental impact of its activities, products and services, and promote employee stewardship. EMS have helped companies worldwide achieve better quality and environmental design and increase their competitive edge.

At the January kick-off meeting in Nogales, Francisco Maytorena, representing Mexico's Attorney General for the Environment (PROFEPA), told



the participants this EMS capacity-building effort can also help them comply with Mexico's environmental audit program and certification under Clean Industry/Clean City (Programa Nacional de Auditoría Ambiental Certificación de Industria Limpia y Municipio Limpio)

Ramon Castrejon of the Infraestructura Urbana y Ecología de Sonora extolled the program as a "way for cities to gather support from the State legislature and governor for increased environmental program resources."

Both the Procuraduría Federal de Protección al Ambiente (PROFEPA) and the Secretaría de Infraestructura Urbana y Ecología (SIUE) are providing technical assistance to the participants.

Sixteen participants committed to developing and certifying an EMS by December 2005. The third workshop was held during the second week of May with Jose Maria Inclan of Monterrey, Mexico providing training and individual technical support. Participants are developing EMS's covering waste, water and energy operations.

The Association of Environmental Safety Professionals of Sonora, also known as APSA (Asociación de Profesionales en Seguridad Ambiental de Sonora) is coordinating the project serving as primary liaison with participants, arranging logistics and providing technical support.

The US partners include the Arizona Department of Environmental Quality, with staff who bring over 10 years of Border program experience and certification in international EMS standards. The U.S. Environmental Protection Agency is providing the EMS trainer; project management and technical resources.

Getting input and sharing results with workers and surrounding communities will be an important part of the EMS's being developed.

The project is designed to meet Border 2012 Goal 6, Environmental Stewardship Objective 1: By 2006, increase by 50 % the number of industries along the U.S.-Mexico Border working on voluntary compliance and/or self-audits, such as EMS. ■



Students and instructor at an EMS training class



Thousands of Tires Cleaned Up in Border Municipalities

By Edna Mendoza, ADEQ, Ramón Castrejón, SIUE, Emily Pimentel, EPA Region 9

Border 2012 Tire Cleanup Objectives

The growth of specific solid waste streams, such as tires is expected to increase as a result of population and economic growth. Consequently, as the border region is expected to continue growing, scrap tires will be generated in even higher quantities. Risks already exist as a result of past accumulated tire piles, called legacy tires, in the border region. When improperly managed, scrap tires can create an environmental nuisance and pose environmental hazards if they burn. They can also contribute to public health risks due to diseases associated with mosquitoes, such as the West Nile virus and the Dengue Fever virus. If this problem is not addressed, the potential risks associated with scrap tires are expected to grow. Fortunately, as part of the Border 2012 Program Goal 3 (Reduce Land Contamination), there is a specific objective to clean up three of the largest tire piles in the US-Mexico border region. Major tire cleanups have already been done in the Baja California/California region through Border 2012 financing. In our Arizona/Sonora region, the municipality of Agua Prieta, Sonora has spearheaded their own pilot project that delivered nearly 40,000 tires to a cement plant for use as tire derived fuel (TDF). Officials in Agua Prieta partnered with the rail line, Grupo México, to transport the tires to CEMEX in the capital city of Hermosillo. Several thousand scrap tires remain in Agua

Prieta and officials are seeking avenues to continue with the successful process they initiated through the pilot project.

Binational Tire Management Strategy

In June 2004, the US and Mexico signed a letter of intent to develop a scrap tire management strategy. This commitment resulted because of the growing awareness and concern amongst the border region's citizenry. It was apparent that even if legacy tire piles are cleaned up, new tire piles could be created if newly generated tire piles are not properly managed. Development of the tire management strategy is a work in progress, but the basic elements of the strategy are well accepted:

- * Better understand the problems contributing to waste tire generation;
- * Cleanup legacy tire piles using cost-effective solutions;
- * Prevent new tire piles, and;
- * Involve communities in creating solutions.

Better understand the problems contributing to waste tire generation: There are a variety of factors contributing to the generation of waste tires. The border adds an additional dimension because of the used tire market, inadequate solid waste management, and limited resources and information to address the problems. Tire haulers operating in Mexico are required to have a permit. In Arizona, a disposal fee is collected for every new tire purchased, which funds scrap tire management programs in the state. All governments acknowledge the importance of having adequate enforcement, as well as, addressing compliance and enforcement gaps.

Cleanup legacy tire piles using cost-effective solutions: In the US and Mexico, the most cost-effective and readily available option for disposing of scrap tires has been to use them as TDF. Some cement plants and power plants use TDF as an alternative fuel to replace some of their regular fuel (typically coal or petroleum coke). Use of legacy waste tires as TDF has been a particularly effective use in Mexico for two main reasons:

* Legacy tires have fewer alternative use options because their quality deteriorates over time.

* CEMEX signed an agreement with SEMARNAT to receive scrap tires for use as TDF at no cost.

Prevent new tire piles: The challenge everywhere is preventing new tire piles by developing several alternative scrap tire markets, such as TDF, civil engineering applications, crumb rubber, etc. The good news is that there are actually many viable scrap tire markets, even though they will require long-term planning and investments. One of the most exciting recent developments being considered world-wide is the concept of increasing product stewardship. This means placing the responsibility on tire manufacturers to address life cycle issues, such as using less natural and energy resources in the production of tires; ensure consumers know the best ways to maximize the life of their products; and facilitate recycling tires once they have reached the end of their useful life.

Involve communities in creating solutions: Unless communities know about the scrap tire management problems and risks, and are given an opportunity to contribute to the solutions, the road to resolving the problem will be slow. The Border 2012 Program Waste Policy Forum is developing the binational tire management strategy and will be seeking input from stakeholders. To learn more about the Border 2012 Program or if you want to become more involved visit the web site at www.epa.gov/usmexicoborder. ■

New Hazardous Waste Disposal Facility in Sonora Border Under Consideration by Mexican Government

By Emily Pimentel, EPA Region 9

Amoy Mexico's environmental priorities is to increase the number of hazardous waste disposal facilities. Currently, the only permitted facility in the entire nation is located near Monterrey in Nuevo León. According to SEMARNAT data collected in the year 2000, 3.7 million tons of hazardous waste were manifested. Permitting a hazardous waste facility is challenging because of rigorous technical, regulatory, and financial-responsibility requirements. But the lack of more accessible facilities, particularly in the fast growing border region, is problematic because of existing and future industrial demands. About 24% of Mexico's hazardous waste is derived from the northwestern states of Baja California, Sonora, Sinaloa, and Chihuahua.

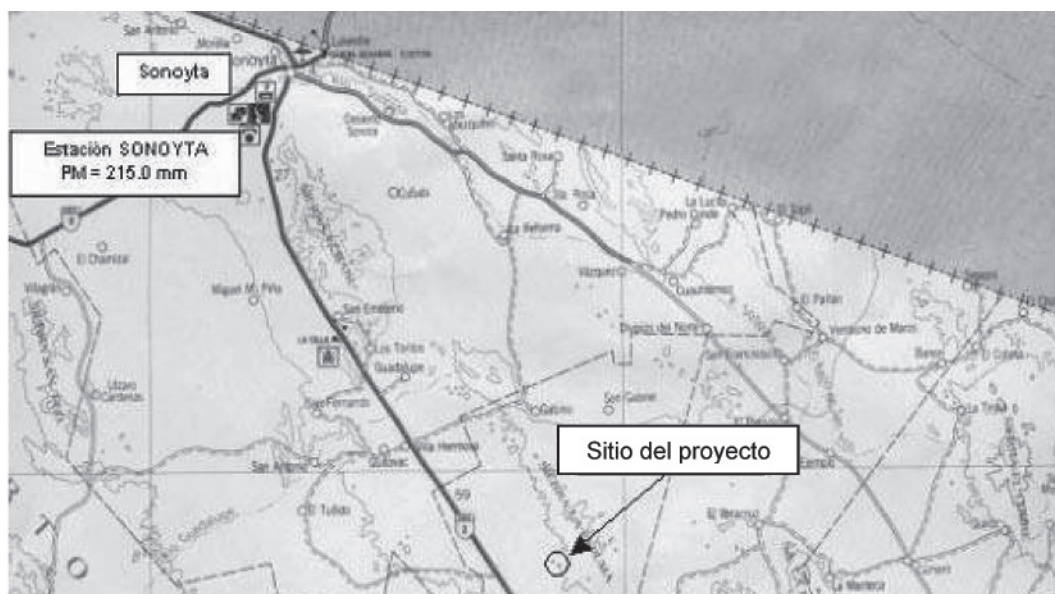
Proposal Undergoing Mexican Government Review: Recently, the Company Centro de Gestion applied for a SEMARNAT permit to construct and operate a hazardous waste facility in the northern Sonora region. The facility would be located in an undeveloped area 60 km southeast of Sonoyta,

Sonora and Lukeville, Arizona, 65 km northwest of Caborca, Sonora and 30 km from the O'odham indigenous community of Quitovac. The area is also 2 km away from Highway 2, a road between Sonoyta and Caborca. The facility would accept hazardous waste, except for bio-hazardous and PCB waste greater than 50 parts per million. It could handle about 45,000 tons of waste per year for disposal and would have a

50-year operating capacity prior to closure. The facility would carry out waste screening and pre-treatment protocols prior to disposal in lined confinement cells. But it will not be set up to conduct any recycling or treatment.

No Significant Impacts Expected: The project proponent report describes the construction, operation, and closure phases and the potential environmental impacts

associated with each of them. The report identifies minimal to insignificant impacts, which can be mitigated through monitoring and engineering controls. Accessible from SEMARNAT's Web site (www.semarnat.gob.mx), the report was available for a 30-day public comment period that closed June 30, 2005. ■



Arizona/Sonora Children's Health Taskforce

By Norman Calero, EPA Region 9

The Arizona-Sonora Children's Environmental Health Task Force recently began two projects aimed at reducing environmental risk to children living in the border region. The first project, forming a joint working group with the Arizona Mexico Commission, is intended to reduce children's exposure to pesticides in schools. The second project seeks to increase awareness of asthma triggers in the schools and homes environment.

The joint working group has already met several times, both in Arizona and Sonora, and started developing a train-the-trainer workshop, along with associated curriculum and training materials, for Integrated Pest Management (IPM) in Sonoran border schools. Given the established role of pests and pesticides in triggering asthma attacks, the workshop will establish a corps of Sonoran trainers who will then be able to make IPM part of the routine in schools throughout Sonora. The project will also benefit Arizona schools, state agencies, and other organizations that serve Spanish speaking populations along the border, by creating training and outreach materials in Spanish. The curriculum and translation of the training materials is now underway. The workshop is tentatively scheduled for early fall 2005 in Nogales, Sonora.

The task force's outreach efforts on asthma triggers in the school and home environment will include producing and distributing bilingual educa-

tion and outreach materials on how to reduce outdoor air pollution, pesticide use, and school bus idling. The materials are currently in draft form. When finalized, they will be distributed to area schools as well as to an existing promotora-based outreach program (Steps to a Healthier Arizona Initiative). ■



Binational Table Top Exercise — Douglas/Cochise County, Arizona — Agua Prieta/Sonora

By Lauren Volpini, U.S.EPA Region 9

On March 1, 2005 the Border 2012 Emergency Preparedness and Response Task Force for Arizona, and Sonora, Mexico, conducted a bi-national hazardous materials tabletop exercise in the Agua Prieta, Sonora and Douglas, Arizona area. A tabletop exercise brings key personnel together in an informal setting to discuss simulated emergencies. During exercise play, participants discuss issues in depth and resolve them, using a slow-paced problem solving process rather than the rapid, stressful process that is characteristic of a full-scale exercise or an actual event. This exercise was conducted in cooperation with numerous participating agencies and was facilitated by the U.S. EPA, Region 9. Participants included 38 representatives from 19 agencies and organizations, including the Douglas and Agua Prieta Fire Departments, Proteccion Civil, AZ Departments

of Emergency Management, Environmental Quality, and Health Services; Cochise County Health Department, U.S. Customs and Border Patrol; Red Cross, Mexico; various city emergency response personnel; and local hospitals.

The goal of the tabletop exercise was to evaluate coordination of the two Binational Emergency Response Plans and actions in response to a hazardous materials incident affecting both Mexico and the U.S. along the border between Agua Prieta, and Douglas. Simulated participants were delivered an exercise scenario in which a tanker truck carrying several thousand gallons of sulfur dioxide overturned in Agua Prieta, Sonora, resulting in a release of sulfur dioxide that endangered human health and threatened to travel across the border into Douglas, Arizona. Additional exercise objectives included effective com-



Tabletop exercise participants discuss response efforts.

munication, establishment of the Incident Command System, assessing the logistics of the response, exploration of health care and medical implications, and the use of the Binational Prevention and Emergency Response Plans to support response activities. At the conclusion of the exercise, participants shared their comments and suggestions, which were compiled into an implementation plan designed to

improve overall response capability in the border area. The Douglas, Arizona – Agua Prieta, Sonora Binational Hazardous Materials Exercise: Amigos in Peligro After Action Report presents a summary of the exercise and the plan. For copies, please contact Chief Novoa, Douglas Fire Department at (520) 363 - 2481. ■

2005
English/Spanish Field Guide for
Emergency Response Communication



Guía de Campo para Comunicación de
Respuesta a Emergencias Español/Inglés

Emergency Numbers	Números de Emergencia
Incident Notification	Notificación del Incidente
Substance Identification	Identificación de Sustancias
Container Types	Tipos de Contenedores
Hazmat	Materiales Peligrosos
Medical	Médica
Protective Equipment	Equipo de Protección
Response Actions	Acciones de Respuesta
Reference/Notes	Referencias/Notas

EPA published and distributed a bilingual (English/Spanish) Field Guide for Emergency Response Communication in March 2005 in cooperation with the Arizona/Sonora Emergency Preparedness and Response Task Force of the Border 2012 U.S./Mexico Environmental Program.

The Guide will help facilitate communication among bilingual emergency responders in the border communities. It will be useful in conducting training, exercises and in actual emergencies. It contains commonly used terms and phrases, as well as valuable reference information and useful phone numbers.

Copies of the Guide can be downloaded from the Web at: www.epa.gov/Border2012. ■

US Tribes and Mexican Indigenous Communities Issue Joint Communique

Contact : Nina Hapner, NAEPC

The 26 U.S. tribes and various Mexican indigenous communities in the border region issued a joint communiqué to express their environmental issues, accomplishments and priorities (see highlights below). Following is a summary of the communique, the full text is available at (www.naepec.com/downloads).

Both U.S. tribes and Mexican indigenous communities are working to improve air quality on their reservations and in their communities. U.S. tribes and Mexican indigenous communities are faced with air pollution problems due to agricultural and metropolitan areas near or on their reservations and communities. The Cocopah Tribe, in Arizona, is conducting a demonstration project to study improved tilling of farmlands on the tribe's reservation, to decrease the exposure of tribe members to dust emissions. The Ysleta del Sur Pueblo Tribe in Texas, located in an urban environment along the border, is sampling ambient air for volatile organic compounds and hazardous air pollutants, in partnership with EPA Region 6 and the University of Texas School of Public Health. This will provide baseline assessment of exposure and identify potential health risks to the tribal community. The Los Coyotes Band of Cahuilla Indians is paving dirt roads on its reservation to reduce air pollution. U.S. Tribes with monitoring stations will continue air sampling for ozone and particulate matter (which are largely produced by off-reservation activities) to further define concerns of their communities. They will continue to seek funds to reduce emissions that affect their communities.

The ability to provide access to safe drinking water and basic wastewater sanitation is another high priority for tribal and indigenous communities in the U.S. and Mexico. Quitovac, a small O'odham indigenous community in Mexico, received funding for a potable water system for the community and boarding school for 100 children (with funding coordinated through the Tohono O'odham Nation). Nearly all the indigenous communities in the Mexico border region lack access to safe drinking water and basic sanitation, and these communities will be severely impacted by the proposed new water usage fees. EPA's tribal border infrastructure program has funded 39 projects for 15 Tribes in the California and Arizona Border Region, providing access to safe drinking water and basic sanitation for over 8,000 homes. Despite these successes, there is still an estimated \$60 million shortfall in funding needed for tribal infrastructure. Tribes are also concerned about protecting shared aquifers which are threatened by overdraft and contamination from off-reservation activities.

Tribal communities are greatly affected by illegal dumping. On the Tohono O'odham Nation in Arizona and the Campo Indian Reservation in California, there is an ongoing struggle to remove waste left behind due to undocumented immigration. In other areas near the border, tribes and indigenous communities are struggling to halt the illegal burning of trash, dumping of cars, and the increase of illegal drug labs. With the increase in traffic across tribal lands and communities, it is imperative that we be prepared for environmental accidents and strive to put preventative measures in place.

Indigenous communities in the border area also lack solid waste disposal programs. In 2004, the Pala Band of Mission Indians removed 34,000 tires from its reservation, and started a recycling program for waste oil and consumer recyclable items. The Tohono O'odham Nation has estimated that there are over 300 wildcat dumps on its reservation, and that 1,500 undocumented migrants dump six tons of trash on the reservation every day.

As we move forward into this next year, our immediate tribal priorities are:

- Improve the air quality on reservations and in indigenous communities
- Increase access to and improve infrastructure for safe drinking water and wastewater by seeking continued funding of the Tribal Border Infrastructure Program, including tribal allocations and funding for Mexican indigenous communities
- Reduce the amount of contamination left behind due to undocumented immigration
- Promote emergency preparedness along the border region
- Establish a Lower Colorado River Task Force under the Border 2012 program ■



Highlights on the US — Mexico Border Indicators Effort

By Steven Young, EPA Washington DC

Aphysian keeps track of blood pressure readings and other vital information (e.g., cholesterol levels) in order to observe a patient's cardiovascular health. Similarly, one can rely on multiple indicators to take a pulse on the environment and environmental health conditions along the US-Mexico border. Indicators can also create a basis for tracking changes in environmental and public health conditions, and hopefully improvements over time, as a result of the collective environmental effort at the border. Thus, indicators can be used as a tool to inform the public and border stakeholders about Border 2012 progress and current environmental and health conditions. Ultimately, the public and stakeholders will benefit from developing and maintaining sound binational indicators. The U.S. and Mexico, like many other countries, use indicators to monitor their programs, plan their next actions, and track trends.

A sample border indicator, currently under consideration is percent of population connected to potable

water supply. As more water supply infrastructure is built to provide safe drinking water to more border communities, this indicator would show a positive upward trend. Development of indicators to measure progress in achieving all six goals of the Border 2012 program is currently underway. The six goals cover environmental media (water, air, and land) as well as environmental health, emergency preparedness and response, and cooperative enforcement and compliance. Both environmental and program indicators are necessary to simultaneously report on the effectiveness of the Border 2012 program and changing conditions at the border. Environmental indicators measure actual border conditions and trends over time, as well as the progress toward meeting specific environmental and health targets. Program indicators measure environmental management activities and progress toward meeting Border 2012 goals and objectives.

The Border Indicators Task Force (BITF) was created in December

2003 to coordinate with all the Border 2012 stakeholders to define a set of indicators as well as prepare protocols for the collection and analysis of the data necessary to report environmental and health results. The goal of the Task Force is to publish the initial set of binational indicators by the end of this year, and then to develop a sustainable mechanism to update indicators periodically. Various stakeholders are participating in developing and using indicators. In addition to the U.S. Environmental Protection Agency (EPA) and Mexico's Secretariat for the Environment and Natural Resources (SEMARNAT), agencies such as the U.S. Centers for Disease Control and Prevention (CDC), and the Mexican Secretariat of Health (Secretaría de Salud) are contributing. The state and local health and environmental departments on both sides of the border are also key players in this process, as well as international organizations such as the Pan American Health Organization (PAHO) and the Southwest Consortium for Environmental Research and Policy (SCERP).

For more information, please contact the following officials or visit us online at <http://www.epa.gov/border2012/indicators.htm>.

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Strategic Communications: Essential to the Border 2012 Program Success

By Albes Gaona, EPA Washington DC

Strategic communication is critical to a successful Border 2012 Program. Ensuring effective and timely communications with the public, program partners, and other stakeholders, is a program priority. To that end, the Borderwide Communications Task Force (BCTF) was created at the first National Coordinators Meeting in Matamoros, Tamaulipas, on December 2003 with participants from state, regional, U.S. and Mexican federal offices. Since then, the task force has expanded to include additional stakeholders from the border region.

The goal of the BCTF is to promote the Border 2012 Program through timely and efficient internal and external communications. In addition, the task force develops communication tools, and coordinates communications for all events and outreach activities.

Over the past few months, the taskforce has been working on the development of the Border 2012 Communications Strategies in addition to other projects, as reported at the 2005 National Coordinators Meeting in Tucson last March. The strategy, a guideline for timely and efficient communications, has been finalized and is now in effect. Other accomplishments included the completed redesign of the official Border 2012 web site, aimed at improving information sharing online; the completion of the Border 2012 Program Directory (Yellow Pages) listing most program participants; and the Border 2012 Information Kit, a basic outreach package containing program fact sheets and other information.

The BCTF's main goal for 2006-07 is to successfully carry out the Border 2012 Communications Strategies along with other activities intended to enhance program communications at all levels. For additional information on the BCTF please visit the website at <http://www.epa.gov/border2012/communications.htm>, or contact the taskforce leaders at:

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"Strategic communication is critical to a successful Border 2012 Program."

U.S. and Mexican Representatives Report on Border Environmental Accomplishments and Priorities

By Albes Gaona, EPA Washington DC

This year's National Coordinators Meeting (NCM) took place in Tucson, AZ and was successfully hosted by the Arizona Department of Environmental Quality and the U.S. EPA's Region 9. The meeting was chaired by Jerry Clifford, the U.S. National Coordinator and Maria Teresa Bandala, Mexico's National Coordinator, and attended by representatives from U.S. and Mexico federal, state and local governments, as well as border tribes and indigenous communities, non-profits and the public sector.

During the two-day event, the National Coordinators and participants renewed their commitment to the Border 2012 goals, reviewed progress, and set directions for 2006. The public had the opportunity to attend the open meetings and the public session on the second day, and for the first time, representatives from the U.S. border tribes and Mexico's indigenous communities presented their accomplishments and priorities. In the end, the meeting resulted in a shared understanding of environmental accomplishments, and priority actions needed in upcoming years to address environmental and health concerns across the U.S.-Mexico Border.

Among the many accomplishments reported by program partners:

- A reaffirmed commitment to provide safe drinking water and sanitation to protect public

health in border communities. In 2003 and 2004, the U.S. EPA provided \$95 million in grant funds through the Border Environment Cooperation Commission and North American Development Bank for critical safe drinking water and sanitation projects benefiting over a million border residents.

- Efforts made by El Paso, Ciudad Juarez, and Doña Ana County in moving towards meeting air quality standards for all pollutants were recognized. Also acknowledged were the joint efforts of Federal and State authorities in California and Baja California for beginning, in 2004, to transfer management of 13 monitoring stations from U.S. agencies to Mexican authorities in Mexicali, Tijuana and Playas de Rosarito.
- Over 281,000 scrap tires have been removed from abandoned

tire pile sites in Mexicali, Tijuana, and Ciudad Juarez, the tires were used as fuel in cement plants.

- A continuing effort to remove and dispose of 1,500 tons of hazardous waste from the Metales y Derivados site, an abandoned secondary lead smelter and battery recycling facility in Tijuana.
- The Border 2012 Environmental Health Workgroup is forming an alliance with the U.S.-Mexico Border Health Commission to target resources and improve collaboration among environmental health agencies at all levels of government in both countries.
- Efforts to expand the Border Compliance Assistance Center will strengthen compliance at U.S.-Mexico Ports-of-Entry, improve compliance by expanding pollution prevention and environmental management systems, and use data to identify areas



The National Coordinators Ma. Teresa Bandala and Jerry Clifford

where regulated facilities' toxic substances emissions pose the greatest potential to harm surrounding communities.

- A commitment was made to prevent environmental accidents, and where accidents do happen, to prevent the worst consequences. In the last year, first responders have received training and conducted exercises to prepare for and manage chemical accidents and respond to terrorism.

As the Border 2012 Program moves forward, program partners agreed to the following immediate priorities for 2005-06:

- Continue to increase access to, and improve, safe drinking water and wastewater infrastructure.
- Retrofit diesel buses and trucks, and improve availability of low sulfur diesel fuel along the border.
- Carry out a demonstration project for the binational clean-up and restoration of abandoned sites contaminated with hazardous waste.
- Clean up additional tire piles.
- Promote financing mechanisms for landfill projects involved in the Methane to Markets initiative

As progress continues to be made this year, program partners acknowledge that there is important work yet to be done. But they are confident that with continued collaboration, and proper transparency and accountability, a substantial contribution towards a cleaner, healthier and more sustainable border environment for future generations will be made. ■



Program partners at the National Coordinators Meeting.



Arizona Governor Janet Napolitano welcomes the Border 2012 National Coordinators Meeting to Tucson.

Acting Locally: What the border-wide Environmental Health Workgroup is and how it works with the states of Arizona and Sonora

by Kirstin Crowder, Association of Schools of Public Health Fellow at the USEPA

The borderwide Environmental Health Workgroup (EHWG), is charged with addressing environmental health problems that are binational and have border-wide applicability.

The bulk of the Workgroup's efforts have been in funding studies of air and pesticide pollution epidemiology, and in environmental health education and professional capacity-building. The EHWG is completing a pesticide study that investigated exposure measurement techniques in Arizona; since pesticides break down in the environment, researchers wanted to find out whether urine samples reveal exposure to the original pesticide compound as well as the degraded compound, and how widespread this potentially confusing phenomenon is.

In keeping with Border 2012's bottom-up approach, the EHWG frequently relies on the regional environmental health taskforces for information on environmental health needs. At the annual EHWG meeting in February, the leaders of the environmental health taskforces were invited to give presentations on the problems identified as priorities to their local constituents. The Workgroup was interested to see whether these priorities overlapped. Common priorities cited by the presenters were air pollution (or asthma-triggers), water pollution and scarcity, and pesticide poisoning.

The meeting participants also voiced a need for indicators for environmentally-mediated diseases. Accordingly, the EHWG has turned its

attention to developing air and water indicators. It is about to hire two contractors to assess the completeness of data in air and water monitoring and their anticipated health effects. Additionally, the work group is creating two teams of experts in air quality research or management, water quality, and associated illnesses. These teams will make recommendations on which indicators will best serve the stakeholders of Border 2012 and how to develop them, based partly on the results of the contractors' work. The Workgroup hopes that these recommendations will be available by late fall 2005.

In a program as large and multi-themed as Border 2012, partnering can be difficult, especially when the scope of work differs. The partnership of the EHWG and its regional counterparts in Arizona/Sonora and also California/Baja California is an example of how some of those gaps in communication and resources can be bridged. For more information on the EHWG and its projects go to <http://www.epa.gov/ehwg>. For a full description of Border 2012 and the relationships between its member groups, please see the Border 2012 Framework document, or the California/Baja California Newsletter at www.epa.gov/usmexicoborder.

Current projects the EHWG funds in Arizona, and Sonora:

- Urinary Metabolites in Environmental Media: A Scoping and Feasibility Study (Yuma, Arizona)

Past projects the EHWG has funded in Arizona and Sonora:

- Project Clean Environment for Healthy Kids II (San Diego County, Calif.; Tijuana, Baja California; and Somerton, Arizona)
- Household Pesticide Use Survey (Douglas, Arizona)
- Pesticide Exposure and Potential Health Effects in Young Children Along the U.S. - Mexico Border: Pesticide Exposure in Children Living in Agricultural Areas (Yuma County, Ariz.)
- U.S.-Mexico Border 2012 Initiative for Pediatric Lead Exposure Identification and Risk Reduction (Tijuana, Baja California; and Arizona/Sonora border region)
- National Human Exposure Assessment Survey (NHEXAS) Border Project 1996-2002 (Arizona border region)
- Investigation of Systemic Lupus Erythematosus (Nogales, Arizona) ■

Ten States Alliance

By Ricardo Martinez and Claudia Villacorta, P.E.



For decades efforts to address environmental issues along the U.S.-Mexico border region were usually made on a project-by-project basis. But approximately ten years ago, these efforts became more coordinated as a result of the fourteenth U.S. - Mexico Border Governors Conference in May 1996 in Santa Fe, New Mexico, and the ten U.S. - Mexico Border States' Retreat in Austin, Texas in November 1996. During these meetings, an official framework was created for the U.S.-

Mexico Border States' Environmental Program.

The framework formed an alliance, known as the Ten States Alliance (a.k.a. Ten States Retreat), to develop a mechanism for ongoing communication, cooperation, and exchange of information among the environmental agencies of the U.S.-Mexico Border States. The Ten States Alliance is comprised of the leading officials of the state agencies responsible for environmental protection, and natural resource conservation for the states of Arizona, Baja California, California, Chihuahua, Coahuila, New Mexico, Nuevo Leon, Sonora, Tamaulipas and Texas.

Since its inception in 1996, the Ten States Alliance has aimed at providing a forum to discuss high-level policy on environmental issues in the shared US-Mexico shared border region. This forum has helped identifying common goals, challenges, differences, and unifying common ground on important issues. The Ten States have proven to be a group of consensus builders in a dynamic setting, which has also given way to fruitful relationship building among the ten environmental authorities that oversee the US-Mexico border region. The Ten States Alliance has been funded through several sources in the past, including the Ford Foundation, the State of California, and since 1997 through a grant from the U.S. EPA Office of International Activities, and U.S. EPA Regions 6 and 9. These EPA grants are managed by the Western Governor's Association.

The Ten States Alliance has paved the way for ongoing coordination and information exchange among the state environment agencies, and between them and key institutions and stakeholders in the border region. Some of the major accomplishments of the alliance include:

- Joint development of the Border 2012 Environmental Program;
 - Providing a forum for high-level policy discussion and consensus building on contentious issues; and
 - Development of several key Joint Declarations for the Environmental Worktable at the Border Governors Conference
- The Ten States Alliance meets annually to discuss environmental issues of mutual concern and to develop joint declarations for the Border Governors Conference. The Border Governors Conference (BGC) is an annual meeting of the Ten U.S.-Mexico Border Governors, their designated representatives and worktables. Since the first conference in 1980, the BGC has enhanced joint border efforts addressing agriculture, border crossings, border security, education, environment, tourism, economic development, and health. At this year's conference in Torreon, Coahuila, the Ten States Alliance developed three Joint Declarations, which were adopted by the ten governors. The governors declared:
- (1) To advance the production of Ultra Low Sulfur Diesel Fuel for air quality and public health improvement by encouraging the Mexican Congress to accelerate planned investments for modernization at the Mexican Petroleum (PEMEX) refineries, thereby facilitating the introduction of this cleaner burning diesel fuel throughout the border region.
 - (2) To implement and promote comprehensive waste management programs throughout the U.S.-Mexico border region, including a strategy for state-to-state and transboundary information exchange on waste management. Economic instruments, such as creation of environmental funds or the introduction of a "Green Seal", will be considered as an aid to develop pollution prevention and environmental remediation programs.
 - (3) To request the Mexican Congress and Mexican Border State Congresses to promote the legislation to have used vehicles-both legally imported vehicles and regularized vehicles-comply with Mexican federal and state emission standards as a prerequisite for registration.
- The next BGC will be held in the summer of 2006 in Austin, Texas. In preparation for the conference, the Ten States Alliance will meet again to discuss progress and develop new joint declarations. California will host the next Ten States Retreat in May 2006.
- For more information, please contact:
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- Lobbying the U.S. Congress to sustain and increase the Border Environment Infrastructure Fund (BEIF);
 - Lobbying to keep the Border Environment Cooperation Commission budget at its current level;

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